

	Type	Hits	Search Text
1	BRS	4	"6111634"
2	BRS	123391	wafer
3	BRS	12856	wafer and image and edge
4	BRS	7708	(wafer and image and edge) and (orient\$5 or rotat\$3)
5	BRS	2018	((wafer and image and edge) and (orient\$5 or rotat\$3)) and window
6	BRS	572	((wafer and image and edge) and (orient\$5 or rotat\$3)) and window) and (film with thickness)

	Type	L #	Hits	Search Text
1	BRS	L1	962	wafer and aligning.ab.
2	BRS	L4	101	1 and edge.ab.
3	BRS	L7	11	4 and 356/399-401.ccls.
4	BRS	L10	16	4907035.URPN.
5	BRS	L11	77	356/399-401.ccls. and wafer and edge.ab.
6	BRS	L17	32	11 and (window or cmp)
7	BRS	L20	160	356/\$.ccls. and "vacuum chamber" and alignment
8	BRS	L23	79	20 and wafer
9	BRS	L26	32	23 and window



US006038029A

United States Patent [19][11] **Patent Number:** **6,038,029****Finarov**[45] **Date of Patent:** **Mar. 14, 2000****[54] METHOD AND APPARATUS FOR
ALIGNMENT OF A WAFER****[75] Inventor:** Moshe Finarov, Rehovot, Israel**[73] Assignee:** Nova Measuring Instruments, Ltd.,
Rehovot, Israel**[21] Appl. No.:** 09/097,298**[22] Filed:** Jun. 12, 1998**[30] Foreign Application Priority Data**

Mar. 5, 1998 [IL] Israel 123575

[51] Int. Cl.⁷ G01B 11/00**[52] U.S. Cl. 356/399****[58] Field of Search 356/385, 394,
356/400, 399, 375; 250/559.3, 559.29****[56] References Cited****U.S. PATENT DOCUMENTS**

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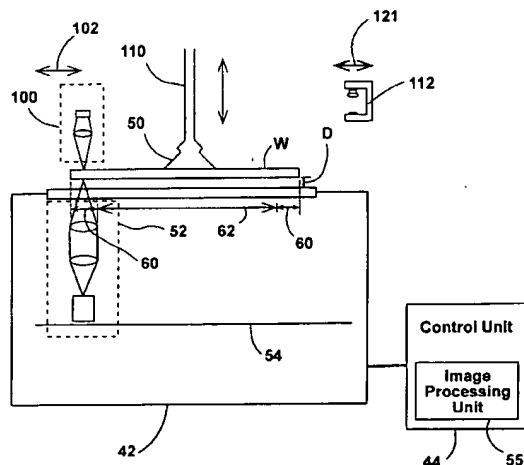
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[57] ABSTRACT

A semiconductor production tool which provides alignment of a wafer at a fab station thereof includes an optical system, a wafer translation mechanism, a field of view translation unit and a unit for determining alignment. The optical system has a field of view which views the wafer. The wafer translation mechanism at least brings the wafer to a predetermined measurement location. In the present invention, the field of view translation unit translates the field of view relative to the wafer so as to view at least a portion of an edge of the wafer during an alignment operation. The unit for determining alignment is operative during the alignment operation and determines the alignment of the wafer from images produced by the optical system when the optical system views at least a portion of the marker.

15 Claims, 8 Drawing Sheets

winner/chamber
not known
9/50 cover. asr
6,181,427
col 2.59-28